

SA-C7

SERVICE MANUAL

Ver 1.0 2002. 03

*AEP Model
UK Model
E Model*



- SA-C7 is the speaker system in CMT-C7NT.

SPECIFICATIONS

Speaker system	Two-way, bass reflex system
Speaker units	9 cm dia., cone type woofer 2 cm dia., balance drive tweeter
Rated impedance	6 ohms
Dimensions (w/h/d)	Approx. 149 × 248 × 220 mm
Mass	Approx. 1.9 kg net per speaker

Design and specifications are subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SPEAKER SYSTEM

9-873-686-01
2002C1600-1
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Home Audio Company
Published by Sony Engineering Corporation

SONY®

[When bringing in the equipment for service]

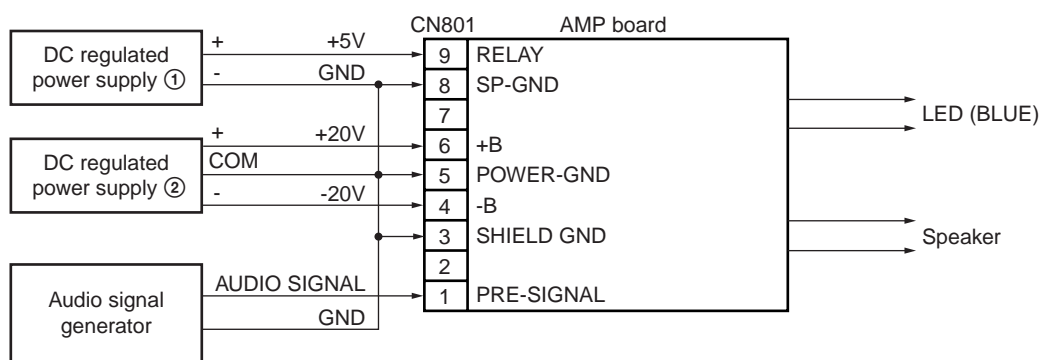
The notice is shown on both Warranty Card and Repair Service column of operation manual, telling to bringing in both of the equipment (HCD-C7NT) and speaker system (SA-C7) together to service station when service (repair) is needed.

[How to check speaker only]

When only speaker is brought in for service, check its operations by supplying both the power and the signal to the AMP board of the speaker as shown below.

Check method :

1. Perform connection as shown below.

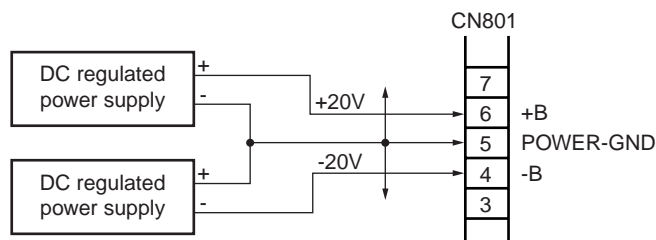


- DC regulated power supply ① (+5 V)

It functions to turn on the speaker relay driver.

- DC regulated power supply ② (± 20 V)

It is desirable to use the DC regulated power supply of the dual tracking type that can supply its output voltages in two polarities of positive and negative polarities. However, the two units of the DC regulated power supply that supplies only a single output voltage can also be used. (See the figure below.)



- Audio signal generator

Output frequency : 1 kHz

Output voltage : 100mV p-p or less

Output impedance : 600 Ω

2. Turn on the main power of the DC regulated power supply ②.

Then turn on the main power of the DC regulated power supply ① (+ 5 V).

After that, input the output signal of the audio signal generator as shown.

3. Check that the LED (D831, D832 (BLUE)) turns on and the audio signal can be heard from the speaker.

Notes :

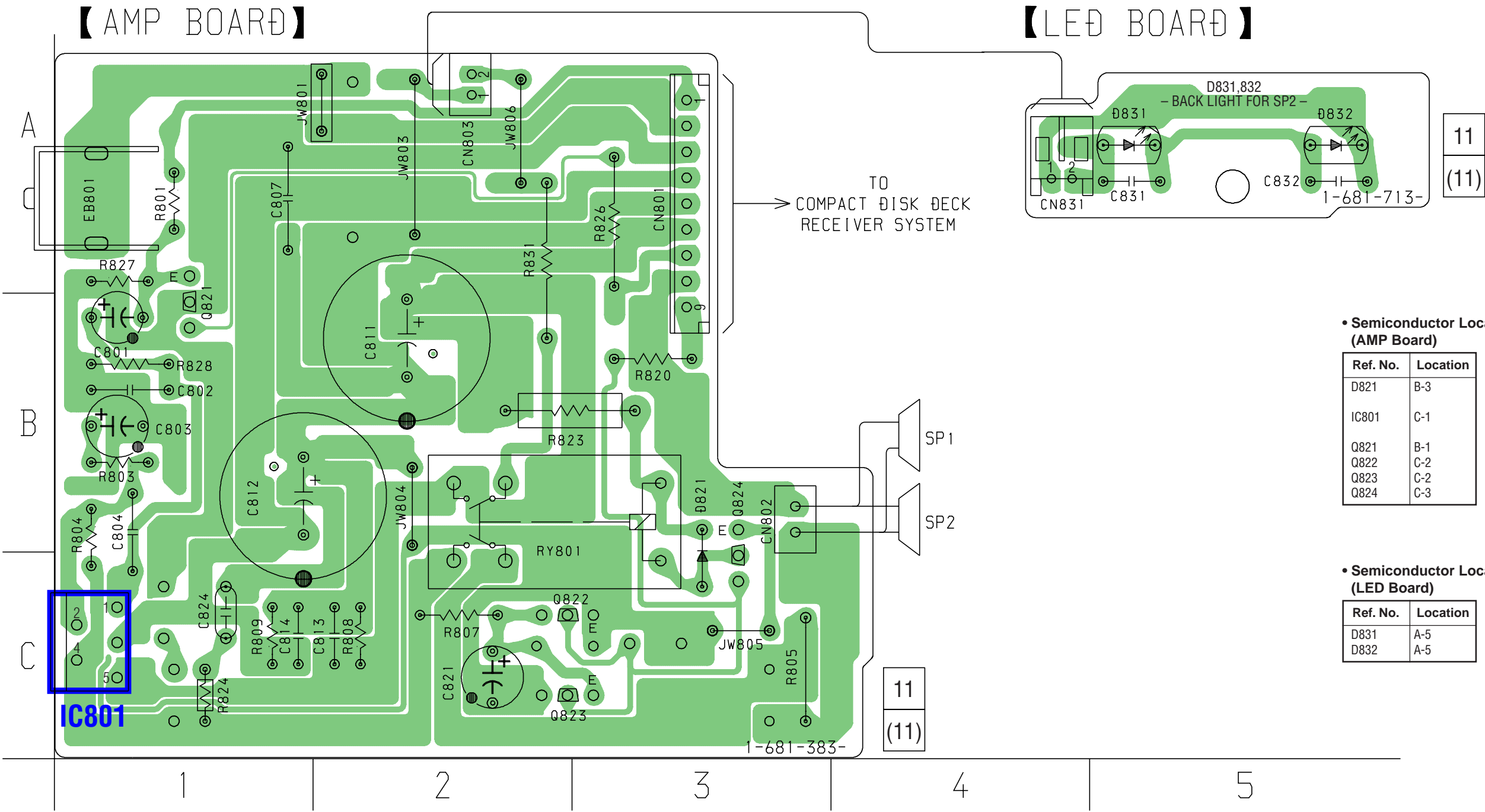
- ① For the speaker cord, disconnect it from the speaker or leave it open.
- ② Be careful not to apply an excessive input audio signal to the speaker.
- ③ If the power voltage is less than ± 14 V, the speaker relay will not be activated.

[Caution when removing the front panel]

The special screwdriver (Sony part code No. 7-640-005-55) of star type (six star type) is required to remove the front panel.

SECTION 1
DIAGRAMS

1-1. Printed Wiring Board



• Semiconductor Location (AMP Board)

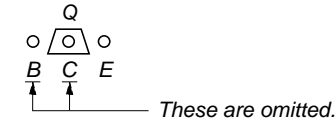
Ref. No.	Location
D821	B-3
IC801	C-1
Q821	B-1
Q822	C-2
Q823	C-2
Q824	C-3

• Semiconductor Location (LED Board)

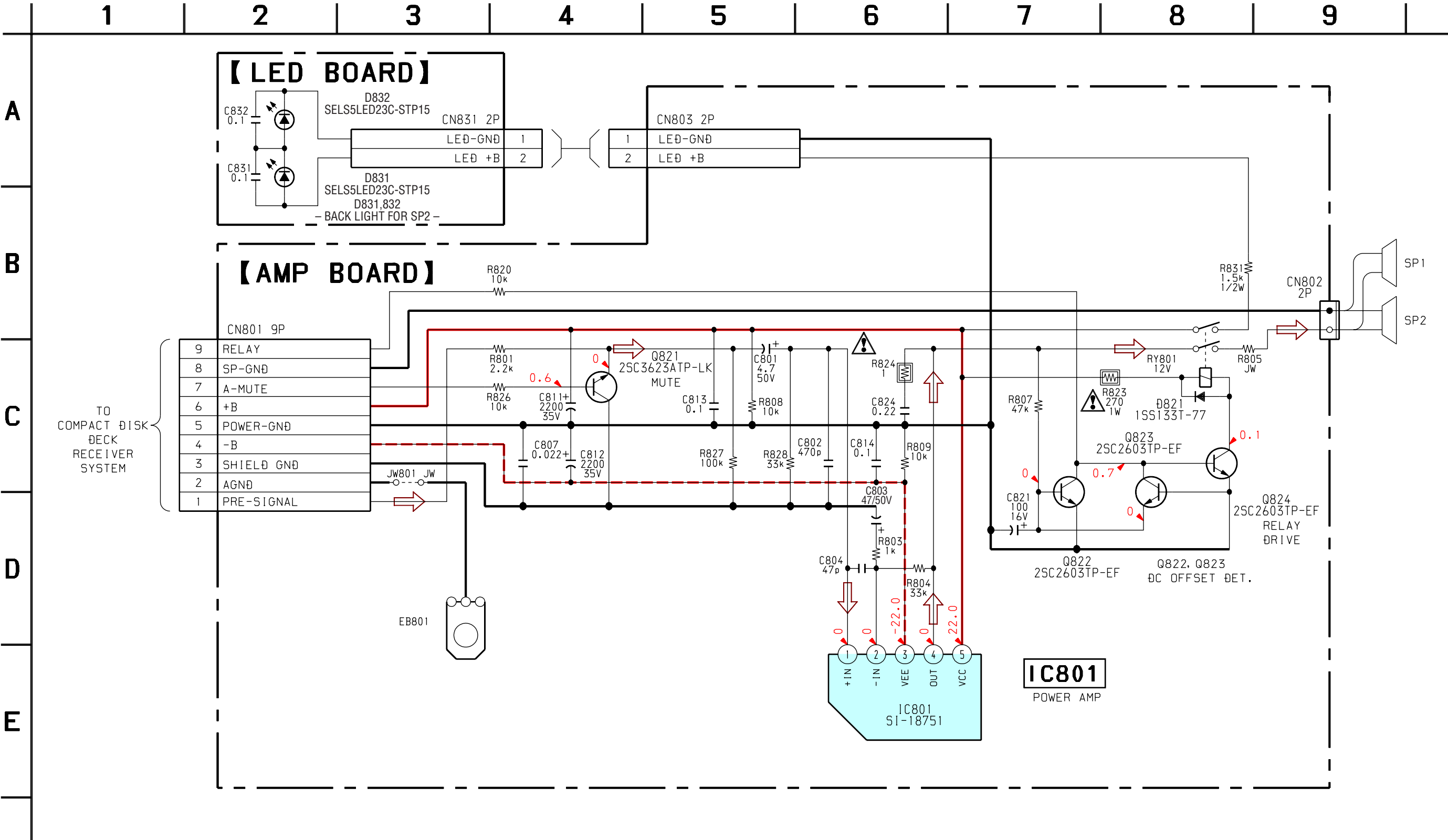
Ref. No.	Location
D831	A-5
D832	A-5

Note on Printed Wiring Board:

- : parts extracted from the component side.
- : Pattern from the side which enables seeing.
- Indication of transistor



1-2. Schematic Diagram



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. p: pF. 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- : nonflammable resistor.

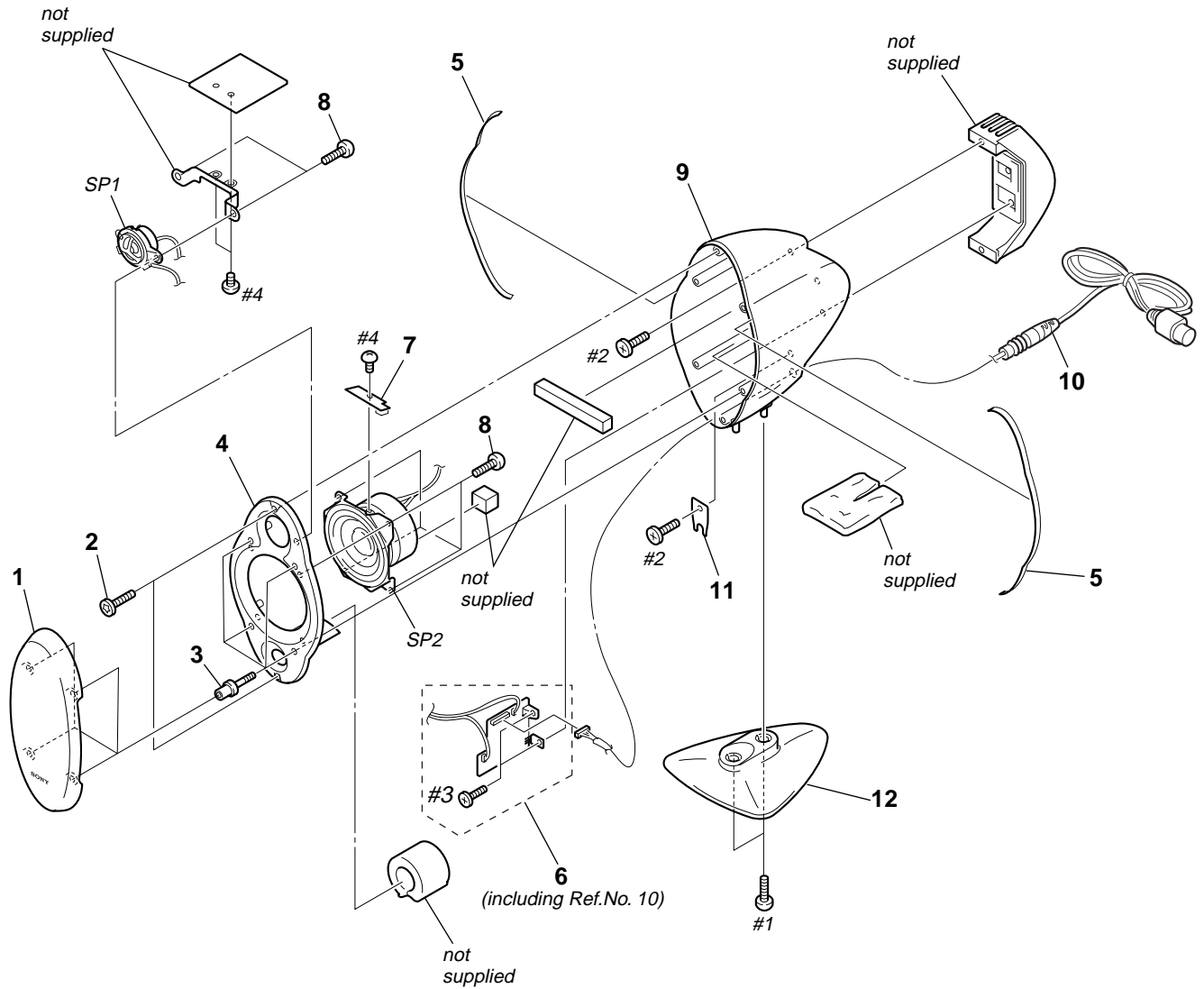
Note: The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

- : B+ Line.
- : B- Line.
- Voltages and dc with respect to ground under no-signal conditions.
no mark : AUDIO
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
 : AUDIO (Analog)

SECTION 2 EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	X-4954-276-1	FRAME ASSY, GRILLE		10	1-757-788-22	CORD, CONNECTION	
2	4-234-735-11	SCREW, ORNAMENT		11	4-235-539-01	PLATE	
3	4-234-729-11	SCREW (P), ORNAMENT		12	4-234-726-21	BASE (STAND)	
4	4-234-725-21	PANEL, FRONT		SP1	1-544-976-11	SPEAKER (2cm)	
5	4-234-730-01	PACKING (A)		SP2	1-544-853-11	SPEAKER (9cm)	
6	A-4727-504-A	AMP BOARD, COMPLETE		#1	7-685-662-79	SCREW +BVTP 4X14 TYPE2 N-S	
7	1-681-713-11	LED BOARD		#2	7-682-563-04	SCREW +B 4X12	
8	4-874-614-71	SCREW		#3	7-682-548-04	SCREW +B 3X8	
9	4-234-724-21	CABINET, SPEAKER		#4	7-685-871-01	SCREW +BVTT 3X6 (S)	

SECTION 3
ELECTRICAL PARTS LIST

- NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
 - XX, -X mean standardized parts, so they may have some difference from the original one.
 - Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
 - CAPACITORS:
uF: μ F
 - COILS
uH: μ H
 - RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
 - SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA..., μ PA...,
uPB..., μ PB..., uPC..., μ PC...,
uPD..., μ PD...

When indicating parts by reference number, please include the board name.

The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks
	A-4727-504-A	AMP BOARD, COMPLETE *****	
	1-757-788-22	CORD, CONNECTION	
	7-682-548-04	SCREW +B 3X8	
		< CAPACITOR >	
C801	1-126-963-11	ELECT 4.7uF 20.00% 50V	
C802	1-162-290-31	CERAMIC 470PF 10% 50V	
C803	1-126-967-11	ELECT 47uF 20.00% 50V	
C804	1-162-215-31	CERAMIC 47PF 5% 50V	
C807	1-161-494-00	CERAMIC 0.022uF 25V	
C811	1-126-953-11	ELECT 2200uF 20.00% 35V	
C812	1-126-953-11	ELECT 2200uF 20.00% 35V	
C813	1-164-159-21	CERAMIC 0.1uF 50V	
C814	1-164-159-21	CERAMIC 0.1uF 50V	
C821	1-126-382-11	ELECT 100uF 20.00% 16V	
C824	1-136-169-00	FILM 0.22uF 5.00% 50V	
		< CONNECTOR >	
* CN801	1-564-512-11	PLUG, CONNECTOR 9P	
		< DIODE >	
D821	8-719-991-33	DIODE 1SS133T-77	
		< IC >	
IC801	8-759-502-31	IC SI-18751	
		< TRANSISTOR >	
Q821	8-729-141-30	TRANSISTOR 2SC3623ATP-LK	
Q822	8-729-620-05	TRANSISTOR 2SC2603TP-EF	
Q823	8-729-620-05	TRANSISTOR 2SC2603TP-EF	
Q824	8-729-620-05	TRANSISTOR 2SC2603TP-EF	
		< RESISTOR >	
R801	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R803	1-249-417-11	CARBON 1K 5% 1/4W F	
R804	1-249-435-11	CARBON 33K 5% 1/4W	
R807	1-249-437-11	CARBON 47K 5% 1/4W	
R808	1-249-429-11	CARBON 10K 5% 1/4W	
R809	1-249-429-11	CARBON 10K 5% 1/4W	
R820	1-249-429-11	CARBON 10K 5% 1/4W	
\triangle R823	1-216-429-00	METAL OXIDE 270 5% 1W	
\triangle R824	1-249-381-11	CARBON 1 5% 1/4W F	
R826	1-249-429-11	CARBON 10K 5% 1/4W	

Ref. No.	Part No.	Description	Remarks
R827	1-249-441-11	CARBON 100K 5% 1/4W	
R828	1-249-435-11	CARBON 33K 5% 1/4W	
R831	1-260-330-11	CARBON 1.5K 5% 1/2W	
		< RELAY >	
RY801	1-755-170-11	RELAY (12V)	

	1-681-713-11	LED BOARD *****	
		< CAPACITOR >	
C831	1-164-159-21	CERAMIC 0.1uF 50V	
C832	1-164-159-21	CERAMIC 0.1uF 50V	
		< CONNECTOR >	
CN831	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P	
		< DIODE >	
D831	6-500-095-01	DIODE SELS5LED 3C-STP15 (BACK LIGHT)	
D832	6-500-095-01	DIODE SELS5LED 3C-STP15 (BACK LIGHT)	

		MISCELLANEOUS *****	
SP1	1-544-976-11	SPEAKER (2cm)	
SP2	1-544-853-11	SPEAKER (9cm)	